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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,953	02/14/2001	Atsushi Murakami	P 277864	9766

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EXAMINER
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MILLER, PATRICK L

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/781,953

Applicant(s)

MURAKAMI ET AL.

Examiner

Patrick Miller

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,7 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-22 is/are allowed.
- 6) ☒ Claim(s) 1,3,7,11 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
  - The finality is withdrawn so the Applicant's new claims 21-24 can be considered.

However, this office action is final because the Applicant's arguments are not persuasive (see below).
2. Applicant's arguments filed on 02/18/04 have been fully considered but they are not persuasive.
  - In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).
  - Osanai et al (6,237,717) disclose a polyurethane foam that exhibits low water absorbency, low oil absorbency, and soundproofing properties, respectively (abstract). Osanai et al also disclose the polyurethane foam used in proximity to an engine. Herrington et al (5,032,622) disclose a shape-memory polyurethane foam that can be used for thermal insulation (col. 1, lines 9-10). Since an engine emits heat, it would be obvious to one having ordinary skill in the art at the time of the invention that the

polyurethane foam of Herrington et al could be used to provide thermal insulation on a motor cover, as taught by Osanai et al. Furthermore, even though the polyurethane foam of Osanai et al is not a shape-memory type, a person of ordinary skill in the art would be motivated to modify the polyurethane foam of Herrington et al so that in addition to providing thermal insulation, the polyurethane foam would also exhibit the characteristics of the polyurethane foam of Osanai et al. Modifying the polyurethane foam of Herrington et al, as taught by Osanai et al, provides at least the advantages of preventing the foam from significantly retaining water (relating to the coefficient of water absorption) and soundproofing:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 7, 11, and 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrington et al (5,032,622) in view of Osanai et al (6,237,717).

- Herrington et al disclose a shape foam memory foam member made of polyurethane foam and method (Title and Abstract) with the following characteristics: a bulk density that is not more than 400 kg/m<sup>3</sup> (Col. 1, lines 36-39); said member has an original shape and is compressed with heating, cooled while in the compressed state, released from the compressed state after cooling, and the original shape is recovered by heating (Abstract).

- Herrington et al do not disclose said member having a coefficient of water absorption between  $.01\text{g/cm}^3$  and  $.2\text{g/cm}^3$ , said member is provided on a surfaced of an engine soundproof cover (claims 3 and 7), and the shape of said member is recovered by engine heat (claims 17 and 18).
- Osanai et al disclose a noise-insulating member made of polyurethane foam that covers an engine, where said insulating member has a  $.0123\text{ g/cm}^3$  coefficient of water absorption (see calculation in the previous Office Action). The motivation for providing a foam member with a  $.0123\text{ g/cm}^3$  coefficient of water absorption is to prevent the foam from significantly retaining water, which provides the advantage of increasing the foam shape's density a smaller percentage than that of comparative examples (Comparing Tables 3 and 4).
- With respect to claims 17 and 18, Herrington et al disclose the transition temperature,  $T_g$  being  $35^\circ\text{C}$  ( $95^\circ\text{F}$ ). A person of ordinary skill in the art would know that the operating temperature of an engine is above  $35^\circ\text{C}$  and would provide sufficient heat to make the foam member substantially recover.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the shape memory foam of Herrington et al so that it exhibits characteristics of water repellency, wherein the coefficient of water absorption is  $.0123\text{ g/cm}^3$ , which falls into the range of  $.01\text{g/cm}^3$  to  $.2\text{g/cm}^3$ , thereby providing the advantage of increasing the foam shape's density by a smaller percentage, as taught by Osanai et al. Additionally, it would have been obvious to one having ordinary skill in the art at the time of the invention that the shape memory foam of Herrington et al can be fitted to a

soundproof cover that fits over an engine, and the engine provides the heat to recover the original shape of the foam member, thereby providing the advantage of preventing undesirable noise from entering the passenger compartment, as taught by Osanai et al.

- With respect to claims 13-16, Herrington et al disclose the member having a bulk density that is not more than 150 kg/m<sup>3</sup> (Col. 1, lines 36-39).

***Allowable Subject Matter***

4. Claims 19-22 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:
  - With respect to claims 19 and 20, the Prior Art does not disclose a polyurethane foam member with a coefficient of water absorption between .04 g/cm<sup>3</sup> and .1 g/cm<sup>3</sup> in a non-compressed state.
  - With respect to claims 21 and 22, the Prior Art does not disclose a polyurethane foam member with a coefficient of water absorption between .02 g/cm<sup>3</sup> and .2 g/cm<sup>3</sup> in a non-compressed state.
6. Claims 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
  - With respect to claims 23 and 24, the Prior Art does not disclose a polyurethane foam member with a coefficient of water absorption between .056 g/cm<sup>3</sup> and .082 g/cm<sup>3</sup> in a non-compressed state.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 571-272-2070. The examiner can normally be reached on M-F, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 571-272-2800 ext 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick Miller  
Examiner  
Art Unit 2837

pm  
February 16, 2004

  
**ROBERT NAPPI**  
**SUPERVISORY PATENT EXAMINER**